

What is claimed is:

1. An ultrasound system, comprising:
 - an ultrasound transducer having a transducer housing having a distal end, and
 - a horn provided at the distal end of the transducer housing;
 - 5 an ultrasound transmission member having a proximal end;
 - a sonic connector that is connected to the horn and the proximal end of the ultrasound transmission member;
 - a catheter knob having a proximal end that is coupled to the distal end of the transducer housing, the catheter knob having a proximal bore that houses the sonic
 - 10 connector; and
 - a nesting piece that is retained inside the proximal bore of the catheter knob, the nesting piece movable from a first position where the sonic connector is received inside the nesting piece to a second position where the sonic connector is separated from the nesting piece when ultrasound energy is being propagated through the
 - 15 ultrasound transmission member.
2. The system of claim 1, further including:
 - means for biasing the nesting piece from the second position to the first
 - position; and
 - 20 means for moving the nesting piece from the first position to the second position.
3. The system of claim 1, further including:
 - an elastic element retained inside the proximal bore of the catheter knob for
 - 25 biasing the nesting piece from the second position to the first position; and
 - a control ring that is operatively coupled to the nesting piece for moving the nesting piece from the first position to the second position.
4. The system of claim 3, further including:
 - 30 a collar movably positioned over the distal end of the transducer housing and movable from a first position where the collar is spaced apart from the control ring to a second position where the collar engages and pushes the control ring.

5. The system of claim 4, further including means for maintaining the collar in the second position.

5 6. The system of claim 4, wherein the collar has an inner ring that has a bore, and an outer ring that has a bore, with the inner ring received inside the bore of the outer ring.

10 7. The system of claim 6, wherein the proximal end of the catheter knob is partially positioned inside the bore of the inner ring when the inner ring is in the second position.

15 8. The system of claim 6, further including a sleeve partially retained inside the bore of the inner ring, the sleeve having a longitudinal slot, and wherein each of the inner ring and the outer ring has an opening, with a pin extending through the opening in the inner ring and the opening in the outer ring.

20 9. The system of claim 8, wherein the slot is opened when the nesting piece is in the first position, and the slot is closed when the nesting piece is in the second position.

10. The system of claim 9, wherein the sleeve grips the catheter knob when the slot is closed.

25 11. The system of claim 3, wherein the catheter knob has a longitudinal channel, and wherein each of the nesting piece and the control ring has an opening, with a pin extending through the opening in the nesting piece and the opening in the control ring, and traveling within the channel.

12. A method of using an ultrasound system during a medical procedure, comprising:

- a. providing an ultrasound system having:
- an ultrasound transducer having a transducer housing having a distal end, and a horn provided at the distal end of the transducer housing;
 - an ultrasound transmission member having a proximal end;
 - a sonic connector that is connected to the horn and the proximal end of the ultrasound transmission member;
 - a catheter knob having a proximal end that is coupled to the distal end of the transducer housing, the catheter knob having a proximal bore that houses the sonic connector; and
 - a nesting piece that is retained inside the proximal bore of the catheter knob;
- b. moving the nesting piece from a first position where the sonic connector is received inside the nesting piece to a second position where the sonic connector is separated from the nesting piece when ultrasound energy is being propagated through the ultrasound transmission member.

13. An ultrasound system, comprising:
- an ultrasound transducer;
 - an ultrasound transmission member having a proximal end;
 - a sonic connector that is connected to the ultrasound transducer and the proximal end of the ultrasound transmission member; and
 - a nesting piece that is movable from a first position where the sonic connector is received inside the nesting piece to a second position where the sonic connector is separated from the nesting piece when ultrasound energy is being propagated through the ultrasound transmission member.

14. The system of claim 13, wherein the ultrasound transducer has a transducer housing having a distal end, and a horn provided at the distal end of the transducer housing, with the sonic connector connected to the horn.

15. The system of claim 13, further including a catheter knob having a proximal bore that houses the sonic connector and the nesting piece.

16. The system of claim 13, further including:
means for biasing the nesting piece from the second position to the first
position; and
means for moving the nesting piece from the first position to the second
5 position.

17. The system of claim 15, further including:
an elastic element retained inside the proximal bore of the catheter knob for
biasing the nesting piece from the second position to the first position; and
10 a control ring that is operatively coupled to the nesting piece for moving the
nesting piece from the first position to the second position.

18. The system of claim 17, further including:
a collar movably positioned over the transducer and movable from a first
15 position where the collar is spaced apart from the control ring to a second position
where the collar engages and pushes the control ring.

19. The system of claim 18, further including means for maintaining the
collar in the second position.

20. The system of claim 18, wherein the collar has an inner ring that has a
bore, and an outer ring that has a bore, with the inner ring received inside the bore of
the outer ring.